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AUTHOR Clark, Robert M.
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ABSTRACT

At Kings River Community College, analyses were conducted of the grades and characteristics of students in Mathematics A (Elementary Algebra), Mathematics B (Plane Geometry), Mathematics C (Trigonometry), and Mathematics D (Intermediate Algebra) to determine which variables were significantly related to student success. Data were gathered on 69 students in Mathematics A, 24 in Mathematics B, 15 in Mathematics C, and 64 in Mathematics D regarding placement test scores, high school grade point average (GPA), prior college units taken, prior college GPA, high school mathematics grades, and prior college mathematics grades. Findings of the study include the following: (1) students had less than a 50% chance of success in Mathematics A if they scored below the 49 percentile on any mathematics placement test, had less than a 3.0 high school GPA, less than a 3.25 GPA in prior college courses, or had grades below A or B in prior college math classes; (2) grades earned in high school math classes had no bearing on success in Mathematics A; (3) the only significant success factor in Mathematics B was college GPA; (4) in Mathematics C, no factor was found to be significant in determining success or failure; and (5) Mathematics D students had less than a 50% chance of success if they scored below the 56 percentile on placement tests, had less than a 3.0 high school or 2.9 college GPA, and had taken less than 35 college units. (KL)

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SUMMARY ANALYSIS OF STUDENTS AND GRADES:
MATHEMATICS A, ELEMENTARY ALGEBRA;
MATHEMATICS B, PLANE GEOMETRY;
MATHEMATICS C, TRIGONOMETRY;
AND MATHEMATICS D, INTERMEDIATE ALGEBRA
FALL, 1980

KINGS RIVER COMMUNITY COLLEGE

Robert M. Clark, Counselor

March 5, 1982

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SUMMARY ANALYSIS OF STUDENTS AND GRADES

MATHEMATICS A, ELEMENTARY ALGEBRA

Fall, 1980

The instructors' rosters were examined for names of students and grades earned. Control cards were surveyed for test scores and high school grade point average. College transcripts were surveyed for college units, college grade point average, and college math grades all prior to Math A. High school transcripts were surveyed for high school math grades. Students who earned grades of A, B, or C in Math A were considered successful; those who had grades of D, F, W, or I recorded were considered unsuccessful. Chi square at the 5% level of confidence was used to determine significance, a factor of 3.841. The day class and the evening class were considered separately, and then were combined for the total group. There were fifty students in the day class and nineteen students in the evening class, a total N of sixty-nine.

There was no advantage in one class over another as far as success rate was concerned.

	Day	Evening	Total
Successful	10	7	17
Unsuccessful	40	12	52
Total	50	19	69

$x^2=2.103$

TEST SCORE

Students in the day class who scored below the 49%ile on the placement test had significantly less chance of success than those who scored on or above the 49%ile. This was not true for the evening class, but it held true for the total group.

DAY CLASS

	49%ile	Below 49%ile	Total
Successful	4	0	4
Unsuccessful	4	30	34
Total	8	30	38

$x^2=16.764$

TEST SCORE (continued)

EVENING CLASS

	49%ile	Below 49%ile	Total
Successful	2	3	5
Unsuccessful	2	6	8
Total	4	9	13

x^2=0.325

TOTAL GROUP

	49%ile	Below 49%ile	Total
Successful	6	3	9
Unsuccessful	6	36	42
Total	12	39	51

x^2=11.302

Day %ile	S	U	Evening %ile	S	U
83	1		69		1
60	1		57	1	1
57		2	49	1	
53	1		32		1
49	1	2	30	1	
45		4	25	1	
41		1	22		1
38		2	13		1
34		3	6		1
30		2	5	1	1
29		2	3		1
27		1	no test	2	4
18		1			
15		1			
13		3			
12		1			
9		2			
8		2			
6		1			
5		2			
4		1			
1		1			
no test	6	6			

HIGH SCHOOL GRADE POINT AVERAGE

Day students who had less than a 3.0 grade point average from high school were significantly less successful than those who had 3.0 or higher. This difference was not significant for the evening class, but was again true for the total group.

DAY CLASS

	3.0 gpa	Below 3.0 gpa	Total
Successful	4	1	5
Unsuccessful	3	31	34
Totals	7	32	39

x^2=14.994

EVENING CLASS

	3.0 gpa	Below 3.0 gpa	Total
Successful	2	3	5
Unsuccessful	2	6	8
Total	4	9	13

x^2=0.325

Day gpa	S	U	Evening gpa	S	U
3.64	1		3.64	1	
3.48	1		3.57		1
3.37		1	3.03		1
3.20		1	3.00	1	
3.17		1	2.90		1
3.08	1		2.86	1	
3.04	1		2.76		1
2.97		1	2.63		1
2.96		2	2.50	1	
2.93		1	2.40	1	
2.85		1	2.30		1
2.84		1	2.27		1
2.73		1	2.08		1
2.72		1	no trs.	2	4
2.66		1			
2.59		1			
2.57		1			
2.54		1			
2.51		2			
2.45		1			
2.36		1			
2.31-1.33		15			
no trs	5	6			

HIGH SCHOOL GRADE POINT AVERAGE (continued)

TOTAL GROUP

	3.0 gpa	Below 3.0 gpa	Total
Successful	6	4	10
Unsuccessful	5	37	42
Total	11	41	52

x^2=11.201

If students without high school transcripts are included, the difference is still significant.

TOTAL GROUP - Including those without transcripts

	3.0 gpa	Below 3.0 gpa and no trans.	Total
Successful	6	11	17
Unsuccessful	5	47	52
Total	11	58	69

$x^2$6.304

COLLEGE UNITS

There were no significant differences between students who had college units prior to Math A and those who had no units. This was true for the day class, the evening class, and the total group.

DAY CLASS

	Units	No units	Total
Successful	5	5	10
Unsuccessful	23	17	40
Total	28	22	50

x^2=0.812

EVENING CLASS

	Units	No units	Total
Successful	7	0	7
Unsuccessful	11	1	12
Total	18	1	19

x^2=0.615

Day Units	S	U	Evening Units	S	U
70.5	1		95		1
67.5		1	87		1
62.5		1	73		1
60	1		71		1
54		1	64		2
52		1	61		1
50.5		1	55	1	
48		1	41.5	1	
40		1	41	1	
37	1		35		1
31		1	29	1	
29.5		1	20		1
29	1	1	16	1	1
28	1		10	1	
27		1	8	1	
23.5		1	0		1
21		2			
17		1			
13-3		8			
0	5	17			

COLLEGE UNITS (continued)

TOTAL GROUP

	Units	No units	Total
Successful	12	5	17
Unsuccessful	34	18	52
Total	46	23	69

$x^2=0.156$

The NUMBER of units did not influence success in Math A, either. The number 28 was used, since most of the successful students fell above that mark, and it approximates one year of college study. There was no significance in the difference in success rates.

TOTAL GROUP

	28+ units	Less than 29	Total
Successful	9	8	17
Unsuccessful	10	33	52
Total	28	42	69

$x^2=2.613$

COLLEGE GRADE POINT AVERAGE

Students with a college grade point average prior to taking Math A of 3.25 or higher had a significantly higher success rate than did the rest of the class. This was not true for the evening class, but held true for the total group. Because of the distribution in the evening class, the grade point average for the chi square test was lowered to 2.81, but the difference in success rate was not significant.

DAY CLASS

	3.25 gpa	Below 3.25	Total
Successful	2	3	5
Unsuccessful	1	22	23
Totals	3	25	28

$x^2=5.457$

COLLEGE GRADE POINT AVERAGE (continued)

EVENING CLASS

	3.25 gpa	Below 3.25	Total
Successful	3	4	7
Unsuccessful	3	8	11
Totals	6	12	18

x^2=0.285

	2.81 gpa	Below 2.81	Total
Successful	5	2	7
Unsuccessful	3	8	11
Total	8	10	18

x^3=3.377

TOTAL GROUP

	3.25 gpa	Below 3.25	Total
Successful	5	7	12
Unsuccessful	4	30	34
Totals	9	37	46

x^2=5.039

Day			Evening		
gpa	S	U	gpa	S	U
3.82	1		4.0	1	
3.48	1		3.89	1	
3.35		1	3.37		1
3.0		1	3.35		1
2.95		1	3.34		1
2.94		1	3.27	1	
2.81		1	3.00	1	
2.73	1		2.81	1	
2.59		1	2.80		1
2.53		1	2.55		1
2.50		1	2.50		1
2.49	1		2.47		1
2.47		1	2.41	1	
2.40		2	2.40	1	
2.38		1	2.14		1
2.37	1		2.09		1
2.34		1	1.96		1
2.32		1	none		1
2.20		1			
2.11		1			
2.02		1			
2.00		1			
1.92		1			
1.84		1			
1.75		1			
1.54		1			
none	5	17			

When those without units (no grade point average) are included, the results are the same: significant for the day class, not significant for the evening class, and significant for the total group.

DAY CLASS

	3.25 gpa	Below 3.25 inc. 0	Total
Successful	2	8	10
Unsuccessful	1	39	40
Total	3	47	50

x^2=4.343

COLLEGE GRADE POINT AVERAGE (continued)

EVENING CLASS

	3.25 gpa	Below 3.25 incl 0	Total
Successful	3	4	7
Unsuccessful	3	9	12
Total	6	13	19

x^2=0.652

TOTAL GROUP

	3.25 gpa	Below 3.25 incl. 0	Total
Successful	5	12	17
Unsuccessful	4	48	52
Total	9	60	69

$x^2$5.328

HIGH SCHOOL MATH GRADES

Those who got A's and B's in high school math classes had no greater success rate than did those who got C's or lower. This was true for the day class, the evening class, and the total group.

DAY CLASS

	A&B	C or lower	Total
Successful	1	5	6
Unsuccessful	1	33	34
Total	2	38	40

x^2=2.022

HIGH SCHOOL MATH GRADES (continued)

EVENING CLASS

	A&B	C or lower	Total
Successful	1	4	5
Unsuccessful	2	7	9
Total	3	11	14

$x^2=0.009$

TOTAL GROUP

	A&B	C or lower	Total
Successful	2	9	11
Unsuccessful	3	40	43
Total	5	49	54

$x^2=1.308$

The same results occur when students with no record of high school courses are included.

TOTAL GROUP

	A&B	C or lower no trans.	Total
Successful	2	15	17
Unsuccessful	3	49	52
Total	5	64	69

$x^2=0.685$

COLLEGE MATH GRADES

For the day class, those who had prior college math courses with grades of A or B had no higher success rate than those who got C grades or lower. In the evening class, though and in the total group those with A and B grades were significantly more successful in Math A than were those with college math grades of C or lower.

DAY CLASS

	A&B	C or lower	Total
Successful	2	1	3
Unsuccessful	5	8	13
Totals	7	9	16

$x^2=0.787$

EVENING CLASS

	A&B	C or lower	Total
Successful	3	0	3
Unsuccessful	1	6	7
Total	4	6	10

$x^2=6.428$

TOTAL GROUP

	A&B	C or lower	Total
Successful	5	1	6
Unsuccessful	6	14	20
Total	11	15	26

$x^2=5.378$

COLLEGE MATH GRADES (continued)

These significances do not hold up, though, if students with no math classes in college are included.

DAY CLASS

	A&B	C or below and none	Total
Successful	2	8	10
Unsuccessful	5	35	40
Total	7	43	50

$x^2=0.081$

EVENING CLASS

	A&B	C or below d none	Total
Successful	3	4	7
Unsuccessful	1	11	12
Total	4	15	19

$x^2=0.738$

TOTAL GROUP

	A&B	C or below and none	Total
Successful	5	12	17
Unsuccessful	6	46	52
Total	11	58	69

$x^2=3.054$

SUMMARY

1. Students scoring below the 49%ile on any math placement test have less than a 50/50 chance of success in Math A.

2. Students with less than a 3.0 grade point average in high school have less than a 50/50 chance of success in Math A. This includes those without a high school transcript - non-graduates, GED, etc.

3. The number of college units prior to Math A has no bearing on success in Math A.

4. Students with less than a 3.25 grade point average in prior college units have less than a 50/50 chance of success in Math A. This includes students with no units.

5. Grades earned in high school math courses have no bearing on success in Math A.

6. Students who have had math courses in college prior to Math A who had grades below A or B in those courses have less than a 50/50 chance of success in Math A.

7. Enrollment in the subject gave the student less than a 50/50 chance of success.

RECOMMENDATIONS

1. Counselors and faculty and departmental advisors use the above information when discussing possible placement in Math A with a student.

2. Replicate the study after two years to verify the conclusions and/or to see if there has been any effect as a result of advising.

RMC:bjs
03/10/82

SUMMARY ANALYSIS OF STUDENTS AND GRADES

MATHEMATICS B, GEOMETRY

Fall, 1980

The instructor's roster was examined for names of students and grades earned. Control cards were surveyed for test scores and high school grade point average. College transcripts were surveyed for college units, college grade point average, and college math grades, all prior to Math B. High School transcripts were surveyed for high school math grades. Students who earned grades of A, B, or C in Math B were considered successful; those who had grades of D, F, or W recorded were considered unsuccessful. Chi square at the 5% level of confidence was used to determine significance, a factor of 3.841.

TEST SCORES (4 had no scores)

Students who scored on the 35%ile or higher did better than those who scored below the 35%ile, but not significantly so. (It was significant on the 10% level).

	35%ile+	Below 35%ile	Totals
Successful	4	1	5
Unsuccessful	5	10	15
Totals	9	11	20

x^2=3.299

%ile	S	U
83	1	
57		2
49	1	2
45	1	
41		1
38	1	
34		2
30		1
29		1
22	1	1
20		1
15		1
13		1
5		1
4		1
None	2	2

HIGH SCHOOL GRADE POINT AVERAGE (3 had no transcript)

GPA	S	U
3.65		1
3.56	1	
3.29	1	
3.10		1
3.08	1	
3.03		1
3.00		1
2.96	1	1
2.94		1

Those who had a higher high school grade point average were somewhat more successful than those with a lower grade point average, but not significantly so.

	2.96+	Below 2.96	Totals
Successful	4	2	6
Unsuccessful	5	10	15
Totals	9	12	21

x^2=1.944

2.86		1
2.83	1	
2.79		1
2.71		1
2.70		1
2.54		1
2.48		1
2.42		1
2.32		1
1.86	1	
1.71		1
No gpa	1	2

COLLEGE UNITS (11 had not units)

There was no significant difference between those students with some college units and those with none. The number of units completed prior to Math B seemed to have no bearing on success in Math B.

	Units	No units	Totals
Successful	5	2	7
Unsuccessful	8	9	17
Totals	13	11	24

x^2=1.186

UNITS	S	U
43	1	
40	1	1
34.5		1
29		1
28	1	1
27	1	
25		1
11		1
10		1
9		1
8	1	
0	2	9

	Over 25 units	25 or less	Totals
Successful	4	1	5
Unsuccessful	4	4	8
Totals	8	5	13

x^2=2.270

Even if those without any units are included, the difference is not significant.

	Over 25 units	25 or less	Totals
Successful	4	3	7
Unsuccessful	4	13	17
Totals	8	16	24

x^2=2.521

COLLEGE GRADE POINT AVERAGE

Students with less than a 2.70 grade point average in college courses taken prior to Math B had a significantly greater success rate than those with less than the 2.70 grade point average.

	2.70+	Less than 2.70	Totals
Successful	4	1	5
Unsuccessful	1	7	8
Totals	5	8	13

$x^2=5.923$

GPA	S	U
3.37	1	
3.06		1
2.92	1	
2.81	1	
2.71	1	
2.69		1
2.64		1
2.45		1
2.40		1
2.25		1
2.22		1
2.10		1
2.05	1	
none	2	9

If students without any college grade point average are added, the significance is greater.

	2.70+	Less than 2.70	Totals
Successful	4	3	7
Unsuccessful	1	16	17
Totals	5	19	24

$x^2=7.899$

HIGH SCHOOL MATH GRADES

There were no significant differences in success rate between students with A and B grades in high school math courses and those with grades of C or lower. The significance was examined for those with A, B, and C grades in high school math courses versus those with D or lower grades, and there was none.

	A or B	C or less	Total
Successful	1	5	6
Unsuccessful	2	14	16
Totals	3	19	22

$x^2=0.064$

HIGH SCHOOL MATH GRADES (continued)

	A,B,C	D or less	Totals
Successful	5	1	6
Unsuccessful	10	6	16
Totals	15	7	22

$x^2=0.873$

COLLEGE MATH GRADES

Grades in college math classes taken prior to Math B had no bearing on success or failure in Math B. Grades of A and B, and A, B, and C were considered with the same result.

	A or B	C or less	Totals
Successful	1	3	4
Unsuccessful	1	4	5
Totals	2	7	9

$x^2=0.032$

	A,B,C	D or less	Totals
Successful	2	2	4
Unsuccessful	3	2	5
Totals	5	4	9

$x^2=0.090$

Students who had some college math class prior to Math B regardless of grade earned had better success rates than had those with no college math, but not significantly so.

	College math	No college math	Totals
Successful	4	3	7
Unsuccessful	5	12	17
Totals	9	15	24

$x^2=1.830$

SUMMARY AND RECOMMENDATIONS

By just enrolling in the class the student gave himself less than a 50/50 chance of success. Seven were successful and 17 were not. The only factor that proved to be of significance was the college grade point average in courses taken prior to Math B. Those with less than a 2.70 grade point average, including those with no grade point average (no courses) had much less than a 50/50 chance of success.

It is therefore recommended that:

1. Counselors, advisors, and instructors use this information when advising a student who is considering enrolling in Math B.

2. The study be replicated in two years to determine if the effect of the criteria remains the same, and/or to see if the advising as noted above affected the criteria.

RMC:bjs
02/26/82

SUMMARY ANALYSIS OF STUDENTS AND GRADES

MATHEMATICS C, Trigonometry

FALL, 1980

The instructor's roster was examined for names of students and grades earned. There were fifteen students listed in the class. Eleven of the fifteen were successful, earning grades of C or better. Four students received grades of D or W and were therefore considered unsuccessful.

No factor was found to be significant in determining the success or failure of the fifteen students. Data are summarized below.

TEST SCORES

	Above 50%ile	No test	Totals
Successful	10	1	11
Unsuccessful	2	2	4
TOTALS	12	3	15

$x^2 = 3.068$

%ile	S	U
83	1	
80	1	
75	1	
74	1	
70	1	
68	1	1
65	1	1
57	2	
53	1	
none	1	2

HIGH SCHOOL GRADE POINT AVERAGE

	2.5 +	Less than 2.5 or no trans.	Totals
Successful	6	5	11
Unsuccessful	2	2	4
TOTALS	8	7	15

$x^2 = 0.024$

GPA	S	U
3.79		1
3.60	1	
2.90	1	
2.77	1	
2.75	1	
2.73		1
2.60	1	
2.50	1	
2.40	1	
2.37	1	
2.15	1	
1.82	1	
NoTr	1	2

COLLEGE UNITS

	Some College	No College	Totals
Successful	5	6	11
Unsuccessful	3	1	4
TOTALS	8	7	15

$x^2 = 1.028$

Units	S	U
43	1	
32	1	1
29	1	
21		1
18	1	
8	1	
3		1

COLLEGE GRADE POINT AVERAGE

	2.0+	2.0 or less	Totals
Successful	4	1	5
Unsuccessful	1	2	3
TOTALS	5	3	8

$x^2 = 1.742$

GPA	S	U
3.14	1	
2.95	1	
2.79	1	
2.71		1
2.50	1	
2.00		1
1.87	1	
1.00		1

HIGH SCHOOL MATH GRADES

	All math grades C or better	1 or more math grades below C	TOTALS
Successful	4	6	10
Unsuccessful	1	1	2
TOTALS	5	7	12

$x^2 = 0.068$

COLLEGE MATH GRADES PRIOR TO COURSE

	All math grades C or better	1 or more math grades below C	TOTALS
Successful	4	1	5
Unsuccessful	2	1	3
TOTALS	6	2	8

$x^2 = 0.177$

Seventy-three and one-third per cent of the students were successful. Two of the fifteen were foreign students, one of which was successful. No conclusions can be drawn from these data.

RMC:bjs
02/23/82

SUMMARY ANALYSIS OF STUDENTS AND GRADES

MATHEMATICS D, Intermediate Algebra

FALL, 1980

The instructors' rosters were examined for names of students and grades earned. Control cards were surveyed for test scores and high school grade point average. College transcripts were surveyed for college units, college grade point average, and college math grades, all prior to Math D. High school transcripts were surveyed for high school math grades. Students who earned grades of A, B, or C in Math D were considered successful; those who had grades of D, F, or W recorded were considered unsuccessful. One section was taught during the day, and one section was taught during the evening. Each section was tested separately using chi square, and then the total was tested. To be significant, the factor must be 3.841 or higher.

SUCCESS RATES - DAY VS. EVENING

There were 38 students in the day section. Of those, 18 were successful and 20 were unsuccessful. There were 26 students in the evening section. Of those, seven were successful and 19 were unsuccessful. The difference in success rate did not prove to be significant, however.

	Day	Evening	Totals	
Successful	18	7	25	
Unsuccessful	20	19	39	$x^2=2.701$
TOTALS	38	26	64	

TEST SCORES - CGP, SAT OR ACT

A. Evening students submitted fewer placement test scores than did day students, and this difference was significant. This would suggest that we somehow eventually should provide a testing program for evening students. The two day students and two of the evening students without scores were foreign students who are not required to take a test.

	Day	Evening	Totals	
Score	36	17	53	
No Score	2	9	11	$x^2=9.344$
TOTALS	38	26	64	

The evening students who were tested were not significantly more successful than those who were not tested, however.

	Test	No Test	Totals	
Successful	5	2	7	
Unsuccessful	12	7	19	$x^2=0.154$
TOTALS	17	9	26	

B. For the day class, those students who scored on or above the 56%ile were significantly more successful than those who scored below the 56%ile. This difference did not hold, however, for the evening class. When both classes were put together, the difference was again significant.

DAY CLASS

	56%+	Below 56%	Totals
Successful	8	8	16
Unsuccessful	5	15	20
TOTALS	13	23	36

$x^2=4.06$

EVENING CLASS

	56% +	Below 56%	Totals
Successful	3	2	5
Unsuccessful	3	9	12
TOTALS	6	11	17

$x^2=2.270$

TOTAL GROUP

	56%+	Below 56%	Totals
Successful	11	10	21
Unsuccessful	8	24	32
TOTALS	19	34	53

$x^2=4.133$

DAY

Score	S	U
89	1	
77		1
75	1	
68	2	1
65		1
60	2	
57	1	2
56	1	
54	1	1
53		1
49	1	
45	1	
43	1	
41	1	1
34		1
30	1	1
27	1	2
25		1
22		2
20		1
19	1	1
5		2
4		1

(no test - 2)

EVENING

Score	S	U
90		1
82	1	
74		1
65	1	1
60	1	
54		1
49		1
41	1	1
30		2
27	1	
22		1
13		2
6		1

(no test - 11)

HIGH SCHOOL GRADE POINT AVERAGE

For the day class, students who had a 3.0+ high school grade point average were significantly more successful than those who had less than a 3.0 grade point average. This difference did not hold, however, for the evening class. When both classes were put together, the difference was again significant. Students without high school transcripts were excluded.

DAY CLASS

	3.0+	Below 3.0	Totals
Successful	10	4	14
Unsuccessful	5	15	20
TOTALS	15	19	34

$x^2=4.06$

EVENING CLASS

	3.0+	Below 3.0	Totals
Successful	2	2	4
Unsuccessful	2	11	13
TOTALS	4	13	17

$x^2=2.036$

TOTAL GROUP

	3.0+	Below 3.0	Totals
Successful	12	6	18
Unsuccessful	7	26	33
TOTALS	19	32	51

$x^2=10.29$

DAY GPA	S	U
3.78	1	
3.67		1
3.64	1	
3.50		1
3.47	1	
3.31	1	
3.29	1	
3.26	1	
3.25		1
3.22	1	
3.20	1	
3.19		1
3.15	1	
3.10		1
3.08	1	
2.96		1
2.82		1
2.77		1
2.75		2
2.72	1	
2.66		2
2.59	1	
2.48		1
2.41	1	
2.25	1	
2.15		1
2.09		1
2.07		1
2.00		1
1.66		2
1.62		1
(no trs. - 4)		

EVENING GPA	S	U
3.53		1
3.38	1	
3.21		1
3.14	1	
2.91		1
2.90		1
2.89	1	
2.88	1	
2.80		1
2.77		1
2.74		1
2.70		1
2.61		1
2.58		1
2.56		1
2.29		1
2.25		1
(no trs. - 9)		

COLLEGE UNITS

A significantly larger number of evening students had some college units prior to taking Math D than had day students. Those who had college units were no more successful than were those withoutany prior college. This was true for day students, for evening students, and for the total group.

	College	No college	Totals
Day	19	19	38
Evening	20	6	26
TOTALS	39	25	64

$x^2=4.700$

DAY CLASS	College	No college	Totals
Successful	11	7	18
Unsuccessful	8	12	20
TOTALS	19	19	38

$x^2=1.688$

EVENING CLASS	College	No college	Totals
Successful	6	1	7
Unsuccessful	14	5	19
TOTALS	20	6	26

$x^2=0.417$

TOTAL GROUP	College	No college	Totals
Successful	17	8	25
Unsuccessful	22	17	39
TOTALS	39	25	64

$x^2=0.859$

COLLEGE UNITS (Continued)

Students in the day class who had 35 or more units were significantly more successful than were students with less than 35 units. This was not true for the evening class, but held true for the total group. When we drew the line at 50 units for the evening class, the difference in success rate was significant. The 35 unit category difference held true for the total group, however, but not the 50 unit category.

DAY CLASS	35+units	Less than 35 units	Totals
Successful	6	12	18
Unsuccessful	1	19	20
TOTALS	7	31	38

x^2+5.060

EVENING CLASS	35+ units	Less than 35 units	Totals
Successful	5	2	7
Unsuccessful	7	12	19
TOTALS	12	14	26

x^2=2.462

EVENING CLASS	50+ units	Less than 50 units	Totals
Successful	5	2	7
Unsuccessful	3	16	19
TOTALS	8	18	26

x^2=7.434

TOTAL GROUP	35+ units	Less than 35 units	Totals
Successful	11	14	25
Unsuccessful	8	31	39
TOTALS	19	45	64

x^2=4.026

DAY Units	S	U
56	1	
48.5		1
44	1	
42.5	1	
42	2	
39	1	
31.5	1	1
31		1
30		1
27		1
26	1	
19.5		1
12	1	
7		1
4	1	
3	1	1
0	7	12

EVENING Units	S	U
93.5		1
78		1
76.5	1	
72		1
68.5	1	
62	1	
60	1	
53	1	
47.5		1
42		1
40.5		1
38		1
32		1
29		1
27		1
25		1
24		1
7		1
5	1	
1		1
0	1	5

COLLEGE UNITS (continued)

TOTAL GROUP	50+ units	Less than 50 units	Totals
Successful	6	19	25
Unsuccessful	3	36	39
TOTALS	9	55	64

$x^2=3.352$

COLLEGE GRADE POINT AVERAGE

In the day class students with less than a 2.9 gpa were signigicantly less successful than were those with over a 2.9 gpa. Students with no college units were not considered in this category. This did not hold for the evening class, but was again true for the total group. When the line was raised to 3.1, the difference was not significant for the day class, but was for the evening class and the total group.

DAY CLASS	2.9+ gpa	Less than 2.9	Totals
Successful	7	4	11
Unsuccessful	1	7	8
TOTALS	8	11	19

$x^2=6.634$

EVENING CLASS	2.9+ gpa	Less than 2.9	Totals
Successful	5	1	6
Unsuccessful	6	8	14
TOTALS	11	9	20

$x^2=2.780$

DAY GPA	S	U	EVENING GPA	S	U
4.0	1		4.0		1
3.85		1	3.45	1	
3.57	1		3.41	1	
3.428	1		3.38	1	
3.423	1		3.28	1	1
3.19	1		3.20	1	
3.11	1		3.09		1
2.92	1		3.0		1
2.76		1	2.97		1
2.75	1		2.92		1
2.66		1	2.87		1
2.43		1	2.77		1
2.40		1	2.72		1
2.39	1		2.55		1
2.25		1	2.54		1
2.18	1		2.52		1
2.0	1		2.37	1	
1.3		1	2.36		1
0.5		1	2.15		1

TOTAL GROUP	2.9+ gpa	Less than 2.9	Totals
Successful	12	5	17
Unsuccessful	7	15	22
TOTALS	19	20	39

$x^2=5.769$

COLLEGE GRADE POINT AVERAGE (continued)

DAY CLASS	3.1+ gpa	Less than 3.1	Totals
Successful	6	5	11
Unsuccessful	1	7	8
TOTALS	7	12	19

$x^2=3.518$

EVENING CLASS	3.1+ gpa	Less than 3.1	Totals
Successful	5	1	6
Unsuccessful	2	12	14
TOTALS	7	13	20

$x^2=8.80$

TOTAL GROUP	3.1+ gpa	Less than 3.1	Totals
Successful	11	6	17
Unsuccessful	3	19	22
TOTALS	14	25	39

$x^2=10.869$

HIGH SCHOOL MATH GRADES

In the day class, students with high school math grades of C or below were significantly less successful than those who got A's and B's. This was not true for the evening class and the total group.

DAY CLASS	A or B	C or less	Totals (2 had no transcript)
Successful	3	13	16
Unsuccessful	0	20	20
TOTALS	3	33	36

$x^2=4.090$

HIGH SCHOOL MATH GRADES (continued)

EVENING CLASS	A or B	C or less	Totals	(8 had no transcript)
Successful	1	3	4	
Unsuccessful	2	12	14	
TOTALS	3	15	18	

$x^2=0.257$

TOTAL GROUP	A or B	C or less	Totals	(10 had no transcript)
Successful	4	16	20	
Unsuccessful	2	32	34	
TOTALS	6	48	54	

$x^2=2.54$

COLLEGE MATH GRADES

College math grades prior to Math D had no bearing on success or failure in Math D. This was true in the day class, the evening class, and in the total group.

DAY CLASS	A or B	C or less	Totals
Successful	3	2	5
Unsuccessful	1	4	5
TOTALS	4	6	10

$x^2=1.666$

EVENING CLASS	A or B	C or less	Totals
Successful	3	2	5
Unsuccessful	3	8	11
TOTALS	6	10	16

$x^2=0.257$

COLLEGE MATH GRADES (continued)

TOTAL GROUP	A or B	C or less	Totals
Successful	6	4	10
Unsuccessful	4	12	16
TOTALS	10	16	26

$x^2=3.185$

SUMMARY

1. Enrollment in the subject gave students less than a 50/50 chance of being successful.
2. Evening students had fewer placement test scores than did day students.
3. Students scoring below the 56%ile on a placement test had less than a 50/50 chance of success.
4. Students with less than 3.0 grade point average in high school had less than a 50/50 chance of success.
5. Students with less than 35 prior college units had less than a 50/50 chance of success.
6. Students with less than 2.9 grade point average on prior college units had less than a 50/50 chance of success.

RECOMMENDATIONS

1. Consider implementation of a testing program for evening students.
2. Counselors, advisors, and math instructors use criteria in the summary above numbers 3, 4, 5, and 6 in advising students who are considering enrollment in Math D.
3. Replication of the study in two years to confirm the findings, and/or to determine if advising has affected a change in the data.

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